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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/031,359

01/18/2002

John W. Bogdan

2574

7590

12/24/2003

John W Bogdan
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Ottawa, K2C 2S2
CANADA

EXAMINER

HE, AMY

ART UNIT

PAPER NUMBER

2858

DATE MAILED: 12/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/031,359

Applicant(s)

BOGDAN, JOHN W.

Examiner

Amy He

Art Unit

2858



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,4-10 and 17 is/are rejected.
- 7) ☒ Claim(s) 2,3,11-16 and 18-41 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: .

DETAILED ACTION

Specification

1. The specification is objected to because a new brief summary of the invention and a brief description of the drawings are required. Appropriate correction is required. See the guidelines below.

Content of Specification

Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.

Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.

2. The spacing of the lines of the specification is such as to make reading and entry of amendments difficult. The specification should be double-spaced.

Claim Objections

3. Claim 2 is objected to because it fails to provide proper antecedent basis for the phrase " the first signal (on line 3). Appropriate correction is required.
4. Claim 17 is objected to because it fails to provide proper antecedent basis for the phrase " the first clock" and "counter's clocking input" (on lines 3 and 5). Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 4-10 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Bogdan (U. S. Patent No. 6, 148, 052).

Referring to claim 1, Bogdan discloses a digital phase detector (DPD circuit, abstract, line 1), wherein the digital phase detector comprises:

a frame measurement configuration (ring counter 15 in Figure 2) for counting the first signal clock (signal output from 50 in Figure 2) during every frame of a second signal (VCXO-RCRST signal in Figure 2), and for buffering (by using ring counter buffer 16 in Figure 2) the counted value until it is read by a phase processing unit (CU 8 in Figure 1).

Referring to claim 4, Bogdan discloses a phase capture register (ROC 5 or 7 in Figure 1) for capturing a state of outputs of serially connected gates (50 in Figure 2) which the first signal clock (output from 50 in Figure 2) is propagated through, at the leading edge of the second signal (VCXO-RCRST signal in Figure 2) frame.

Referring to claim 5, Bogdan discloses a phase capture register (ROC 5 or 7 in Figure 1) for capturing a rise of the second signal frame (VCXO-RCRST signal in Figure

2) by multiple outputs of serially connected gates which the first signal clock (output from 50 in Figure 2) is propagated through.

Referring to claim 6, Bogdan discloses a phase capture register (ROC 5 or 7 in Figure 1) for capturing a state of outputs of serially connected gates which the second signal clock is propagated through, by the leading edge of the first signal frame.

Referring to claim 7, Bogdan discloses a phase capture register (ROC 5 or 7 in Figure 1) for capturing a rise of the first signal clock, by multiple outputs of serially connected gates which the second signal clock is propagated through.

Referring to claims 8-10, Bogdan discloses a digital phase detector wherein the digital phase detector comprises an open ended line/ a ring oscillator/ a delay locked loop of serially connected gates (50 in Figure 2).

Referring to claim 17, Bogdan discloses that said first clock counting is enabled (enabling the VCXO_RCRST signal in Figures 1 and 2) by opening a logical gate (using CU 8 in Figure 1) which controls an application of the first clock (output of 50 in Figure 2) to counter's (ring counter 15 in Figure 2) clocking input; and disabled (disabling the VCXO_RCRST signal) by closing a logical gate which controls an application of the first clock to counter's clocking input.

Allowable Subject Matter

6. Claims 2-3, 11-16 and 18-41 are objected to as being dependent upon a rejected base claim (claim 1), but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Meyer (U. S. Patent No. 4, 316, 152)--discloses a phase locked loop circuit having a counter and a phase error detector.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amy He whose telephone number is (703) 305-3360. The examiner can normally be reached on 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le can be reached on 703-308-0750. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4900.

AH
December 17, 2003


N. Le
Supervisory Patent Examiner
Technology Center 2800